

Mr. Warren Ewalt  
Caterpillar, Inc.  
3701 State Road 26 East  
Lafayette, IN 47905

Re: **157-11363**  
First Administrative Amendment to  
**Part 70 157-7594-00044**

Dear Mr. Ewalt:

Caterpillar, Inc. was issued a permit on July 13, 1999 for a stationary internal combustion engine manufacturing source. A letter requesting a change was received on September 22, 1999. This Administrative Amendment will correct a typographical error and add an insignificant activity that does not trigger a new applicable requirement or violate a permit term. Therefore, pursuant to the provisions of 2-7-11 the permit is hereby administratively amended as follows:

A typographical error was found in Condition D.2.4(a), on page 34 of 66 of the permit. This condition should reference Condition D.2.2 and not Condition D.2.1. Condition D.2.4 is revised as follows:

**D.2.4 Sulfur Dioxide (SO<sub>2</sub>) Emissions and Sulfur Content**

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Compliance shall be determined utilizing one of the following options.

- (a) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate that the fuel oil sulfur content does not exceed the limits contained in Condition ~~D.2.1~~ **D.2.2** by:
  - (1) Providing vendor analysis of fuel delivered, if accompanied by a certification;
  - (2) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.
    - (A) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and
    - (B) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling; or
- (b) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the twenty-one (21) engine test cells, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.
- (c) Compliance may also be determined by a certification that all purchased fuels are motor vehicle highway fuels.

A determination of noncompliance pursuant to either of the methods specified in (a) or (b) above shall not be refuted by evidence of compliance pursuant to the other method.

An exiting maintenance paint booth was not included in the Part 70 permit. The paint booth was installed in 1979. Caterpillar, Inc. notified IDEM, OAM, of the paint booth in a letter dated February 17, 1983. Caterpillar, Inc. received a letter indicating that the paint booth was exempt from construction permit rules

on March 7, 1983. That determination was correct since the potential VOC emissions were less than 15 pounds per day. According to the information provided, the potential to emit VOC from the paint booth is 1.30 tons per year. The maintenance paint booth is an insignificant activity. The requirement of 326 IAC 6-3-2 are applicable to this paint booth. Since the paint booth was constructed prior to 1980 in Tippecanoe County, the requirements of 326 IAC 8-1-6 and 326 IAC 8-2 are not applicable. Section A.3 of the permit has been revised as follows:

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)]  
[326 IAC 2-7-5(15)]

This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

- (a) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches soldering equipment, welding equipment.
- (b) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4,000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations.
- (c) Other activities or categories with emissions equal to or less than the insignificant activity thresholds:
  - (1) One (1) diesel fuel tank, capacity: 150,000 gallons.
  - (2) One (1) No. 2 heating fuel oil tank, capacity: 400,000 gallons.
  - (3) One (1) maintenance paint booth installed in 1979.**

The facility description box in Section D.10 is revised as follows:

**Facility Description [326 IAC 2-7-5(15)] - Insignificant Activities**

- (a) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches soldering equipment, welding equipment.
- (b) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4,000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations.
- (c) Other activities or categories with emissions equal to or less than the insignificant activity thresholds:
  - (1) One (1) diesel fuel tank, capacity: 150,000 gallons.
  - (2) One (1) No. 2 heating fuel oil tank, capacity: 400,000 gallons.
  - (3) One (1) maintenance paint booth installed in 1979.**

Condition D.10.1 is revised as follows:

**D.10.1 Particulate Matter (PM) [326 IAC 6-3]**

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the insignificant activities of brazing, cutting, soldering, and welding, ~~and~~ the grinding and machining operations, **and the one (1) maintenance paint booth** shall not exceed allowable PM emission rate based on the following equation:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and  
P = process weight rate in tons per hour.

All other conditions of the permit shall remain unchanged and in effect. Please attach a copy of this amendment and the following revised permit pages to the front of the original permit.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact CarrieAnn Ortolani, c/o OAM, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, at 516-691-3395 or in Indiana at 1-800-451-6027 (ext 516-691-3395).

Sincerely,

Paul Dubenetzky, Chief  
Permits Branch  
Office of Air Management

Attachments  
CAO/MES

cc: File - Tippecanoe County  
U.S. EPA, Region V  
Tippecanoe County Health Department  
Air Compliance Section Inspector - Eric Courtright  
Compliance Data Section - Karen Nowak  
Administrative and Development - Janet Mobley  
Technical Support and Modeling - Michele Boner

# **PART 70 OPERATING PERMIT OFFICE OF AIR MANAGEMENT**

**Caterpillar, Inc.  
3701 State Road 26 East  
Lafayette, Indiana 47905**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 and 326 IAC 2-1-3.2 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: T 157-7594-00044	
Issued by: Janet G. McCabe, Assistant Commissioner Office of Air Management	Issuance Date: July 13, 1999

First Administrative Amendment: 157-11363-00044	Pages Affected: 9, 34, 52a and 52b replace 52
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

- (1) One (1) diesel fuel tank, capacity: 150,000 gallons.
- (2) One (1) No. 2 heating fuel oil tank, capacity: 400,000 gallons.
- (3) One (1) maintenance paint booth installed in 1979.

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

- (a) It is a major source, as defined in 326 IAC 2-7-1(22);
- (b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

## SECTION D.2

## FACILITY OPERATION CONDITIONS

### Facility Description [326 IAC 2-7-5(15)]

- (b) Twenty (20) 3500 engine test cells, identified as M501 through M520, constructed in 1979, with a maximum heat input capacity of 7.6 million British thermal units per hour, each, when operating on diesel fuel and 6.1 million British thermal units per hour, each, when operating on natural gas, exhausting at stack vents W-4 (A through T).
- (c) One (1) 3600 engine test cell, identified as M522, constructed in 1979, with a maximum heat input capacity of 7.6 million British thermal units per hour when operating on diesel fuel and 6.1 million British thermal units per hour when operating on natural gas, exhausting at stack vents W-8 (A and B).

### Emission Limitations and Standards [326 IAC 2-7-5(1)]

#### D.2.1 PSD Minor Limit [326 IAC 2-2] [40 CFR 52.21]

The input of diesel fuel to the twenty-one (21) engine test cells shall be limited to 1,062 kilogallons per twelve (12) consecutive months. For the purposes of this NO<sub>x</sub> limit, one (1) million cubic feet natural gas usage by the twenty (20) engine test cells (M501-M520) is equivalent to 6.81 kilogallons of diesel fuel at the test cells, and one (1) million cubic feet of natural gas usage at the one (1) engine test cell (M522) is equivalent to 0.640 kilogallons of diesel fuel at the test cells. This usage limit is required to limit the potential to emit of NO<sub>x</sub> to less than 250 tons per year. As a result of this limit, CO and VOC emissions will be limited to less than 250 tons per year. Compliance with this limit makes 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 not applicable.

#### D.2.2 Sulfur Dioxide (SO<sub>2</sub>) Limitations [326 IAC 7-1.1-2]

Pursuant to 326 IAC 7-1.1 (SO<sub>2</sub> Emissions Limitations) the SO<sub>2</sub> emissions from the twenty-one (21) engine test cells shall not exceed five tenths (0.5) pound per million British thermal unit heat input.

### Compliance Determination Requirements

#### D.2.3 Testing Requirements [326 IAC 2-7-6(1),(6)]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the NO<sub>x</sub>, CO, and VOC limits specified in Condition D.2.1 and the SO<sub>2</sub> limit specified in Condition D.2.2 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

#### D.2.4 Sulfur Dioxide (SO<sub>2</sub>) Emissions and Sulfur Content

Compliance shall be determined utilizing one of the following options.

- (a) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate that the fuel oil sulfur content does not exceed the limits contained in Condition D.2.2 by:
  - (1) Providing vendor analysis of fuel delivered, if accompanied by a certification;
  - (2) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.
    - (A) Oil samples may be collected from the fuel tank immediately after the fuel

## SECTION D.10

## FACILITY OPERATION CONDITIONS

### Facility Description [326 IAC 2-7-5(15)] - Insignificant Activities

- (a) The following equipment related to manufacturing activities not resulting in the emission of HAPS: brazing equipment, cutting torches soldering equipment, welding equipment.
- (b) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4,000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations.
- (c) Other activities or categories with emissions equal to or less than the insignificant activity thresholds:
  - (1) One (1) diesel fuel tank, capacity: 150,000 gallons.
  - (2) One (1) No. 2 heating fuel oil tank, capacity: 400,000 gallons.
  - (3) One (1) maintenance paint booth installed in 1979.

### Emission Limitations and Standards [326 IAC 2-7-5(1)]

#### D.10.1 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the insignificant activities of brazing, cutting, soldering, and welding, the grinding and machining operations, and the one (1) maintenance paint booth shall not exceed allowable PM emission rate based on the following equation:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and

P = process weight rate in tons per hour.

#### D.10.2 Performance Standards for Volatile Organic Storage Tanks [40 CFR Part 60, Subpart Ka]

The diesel fuel tank with a capacity of 150,000 gallons and the no. 2 fuel oil tank with a capacity of 400,000 gallons are subject to the requirements of 40 CFR Part 60, Subpart Ka. Should the true vapor pressure of the petroleum liquid stored in either tank at any time exceed 1.0 psia, the owner or operator of the tanks shall comply with the record keeping requirements of 40 CFR Part 60.114a. Should, at any time, the true vapor pressure of the liquid stored exceed 1.5 psia, the tanks will become subject to the requirements of 40 CFR Parts 60.112a and 60.113a. A copy of this rule is attached.

### Compliance Determination Requirement

#### D.10.3 Testing Requirements [326 IAC 2-7-6(1),(6)]

The Permittee is not required to test this facility by this permit. However, IDEM may require compli-

Caterpillar, Inc.  
Lafayette, Indiana  
Permit Reviewer: MES

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Modified by: MES

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ance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the PM limit specified in Condition D.10.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.